

TABLE # 4
STEAM SAVER PROGRAMS
SUMMARY OF RESULTS BY TYPE OF PROJECT

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 Ssproj-Jan31,2001.xls
 March 28/01

NORMALIZED FUEL COST \$0.30 PER CU M

NO.	TYPE OF PROJECT	IDENTIFIED SAVINGS				PROJECTS IMPLEMENTED	
		NO. OF PROJECTS IDENTIFIED	ANNUAL DSM SAVINGS CU M / YR	ANNUAL SAVINGS \$	TOTAL CAPITAL INVESTMENT	AVERAGE PAYBACK YEARS	ANNUAL SAVINGS CU M/YR
1	Combustion Improvements Boiler Tune-up, Combustion control repair, Burner repair Repair existing oxygen trim system	45	6,076,909	\$1,823,073	\$725,700	0.40	3,065,890
2	Boiler Room Capital Projects Replace old boiler, Add summer Boiler, Change feed-water pump, New feedwater system, New de-aerator New flue gas uptake damper, Turbine repair Controls improvements	43	7,384,603	\$2,215,381	\$7,022,400	3.17	2,862,507
3	Heat Recovery and Economizer Projects Add new economizer, Repair existing economizer Add new condensing heat recovery economizer Add new blow down heat recovery system.	37	11,809,148	\$3,542,744	\$4,054,322	1.14	1,973,473
4	Operating Changes in Boiler Room Reduce Deaerator venting, Reduce boiler blow-down Shut down boilers on weekends and off-hours Use existing F.W. turbine, Fewer boilers operating	22	4,305,097	\$1,291,529	\$112,732	0.09	1,791,242
5	Steam Distribution Piping and Condensate Improvements (Excluding Steam Trap Program) New steam piping, New condensate piping and receivers, Consolidate steam piping of different pressures, Repair condensate pumps, New control Valves, Recover flash steam from tanks Includes repairs to steam process equipment	37	6,658,379	\$1,997,514	\$686,500	0.34	1,020,457
6	Building HVAC Changes and Capital Projects New Air handler controls, New Temperature set back controls Close building doors in winter, Turn off steam heaters in summer Convert steam coils to direct firing-natural gas	7	2,535,190	\$760,557	\$490,000	0.64	0
7	Insulation Improvements Insulate oil storage tanks, Insulate steam piping	3	885,650	\$265,695	\$286,000	1.08	0
8	Other Projects Clean boiler waterside, Improve water treatment, Clean heat exchangers	9	405,000	\$121,500	\$75,000	0.62	0
TOTAL		203	40,059,976	\$12,017,993	\$13,452,654	1.12	10,713,569
9	Steam Pressure Reduction Central Heating Plants	6	1,814,490	\$544,347	\$0	0.00	1,814,490
10	Steam Trap Survey Program	38	4,116,753	\$1,235,026	\$548,961	0.44	2,327,712
11	New Boiler Plant Program	2	525,000	\$157,500	\$1,307,352	8.30	400,000
12	Metering and Monitoring Program Install new steam, gas, water meters. Repair and Calibrate existing Install computerized data acquisition system	2	476,000	\$142,800	\$185,000	1.30	476,000
TOTAL RESULTS BY TYPE OF PROJECT		251	46,992,219	\$14,097,666	\$15,493,967	1.10	15,731,771